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ABSTRACT

The Carnegie Classification of Institutions of Higher Education is the framework in which institutional diversity in United States higher education is commonly described. Developed in 1971, the Classification was designed to support research in higher education by identifying categories of colleges and universities that would be homogeneous with respect to the functions of the institutions and characteristics of students and faculty members. This publication introduces and provides background on an updated Classification that makes limited changes to current data. By 2005, the Carnegie Foundation for the Advancement of Teaching plans to issue a classification system that replaces the old classification with a series of classifications that recognize the many dimensions of institutional commonality and difference. This edition, a step toward the greater revisions planned in the future, contains: (1) category definitions; (2) technical notes; (3) summary information about the 2000 edition; and (4) a detailed introduction titled "The 2000 Carnegie Classification: Background and Description" by Alexander C. McCormick. (Contains 3 figures, 19 tables, and 13 references.) (SLD)

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ED 457 775

A TECHNICAL REPORT

Reprinted from

The Carnegie Classification of Institutions of Higher Education

2000 EDITION

WITH A FOREWORD BY
LEE S. SHULMAN

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CONTENTS

vii Foreword
By Lee S. Shulman

ix Acknowledgments

1 Category Definitions

3 Technical Notes

5 Summary Information

9 The 2000 Carnegie Classification: Background and Description
By Alexander C. McCormick

31 References

33 Appendix

LIST OF TABLES AND FIGURES

5 **Table 1** Distribution of Higher Education Institutions by 2000 Carnegie Classification

6 **Table 2** Distribution of Higher Education Institutions by 2000 Carnegie Classification and Control

10 **Table 3** The Carnegie Classification of Institutions of Higher Education: 1973 and 1994

12 **Table 4** Changing Criteria for Research Universities I and II: 1973–94

20 **Table 5** Distribution of Higher Education Institutions by Carnegie Classification: 1973–2000

21 **Table 6** Enrollment in Institutions of Higher Education by 2000 Carnegie Classification: Fall 1998

23 **Table 7** Total Undergraduate Degrees Conferred by Institutions of Higher Education by 2000 Carnegie Classification: 1997-98

24 **Table 8** Percentage of Bachelor's Degree Recipients with Majors in Liberal Arts Fields, by 2000 Carnegie Classification: 1997-98

25 **Table 9** Total Graduate and First-Professional Degrees Conferred by Institutions of Higher Education by 2000 Carnegie Classification: 1997-98

26 **Table 10** Among Doctoral/Research Universities and Master's Colleges and Universities, Master's Degrees Conferred and Number of Fields Represented by 2000 Carnegie Classification: 1997-98

27 **Table 11** Among Doctoral/Research Universities, Doctoral Degrees Conferred and Number of Fields Represented by 2000 Carnegie Classification: 1997-98

28 **Table 12** Federal Science and Engineering Obligations for Research and Development to Colleges and Universities by 2000 Carnegie Classification: Fiscal Year 1998 (in thousands)

29 **Table 13** Expenditures for Research and Development at Colleges and Universities by 2000 Carnegie Classification: Fiscal Year 1998 (in thousands)

33 **Table A1** Changing Criteria for Doctoral Universities: 1973–94

34 **Table A2** Changing Criteria for Comprehensive and Master's Institutions: 1973–94

35 **Table A3** Changing Criteria for Liberal Arts and Baccalaureate Colleges: 1973–94

36 **Table A4** Changes in the Carnegie Classification: 1994 to 2000

37 **Table A5** Number of Institutions Included in Text Tables 6–13

38 **Table A6** Standard Deviations Corresponding to Averages in Tables 6, 8, and 10–13

7 **Figure 1** Percentage Distribution of Higher Education Institutions by 2000 Carnegie Classification

13 **Figure 2** Number of Institutions Classified as Research Universities I and II: 1973–94

22 **Figure 3** Percentage Distribution of Institutions and 1998 Fall Enrollment by 2000 Carnegie Classification

FOREWORD

Lee S. Shulman, President
The Carnegie Foundation for the Advancement of Teaching

CLASSIFICATION IS ONE OF THE MOST CHALLENGING TASKS that human beings confront. Which books should be shelved together in a library? Which disciplines should be organized into the same school or colleges in a university? On what basis should students be grouped together in a school? Which institutions should be clustered together in the universe of higher education?

What you hold in your hands or see on your screen is the 2000 edition of the *Carnegie Classification of Institutions of Higher Education*, the first step of our two-stage plan to revamp the Classification. Following this foreword you will find:

- A list of categories and definitions;
- Technical notes;
- Summary information about the 2000 edition;
- A detailed introduction;
- A listing of institutions by Classification category; and
- An alphabetical index of institutions.

In this foreword my goal is to set a context for the 2000 Edition by providing a brief history of the Classification, by reflecting on what the Classification is and is not, and finally, by describing our long-term goals for the 2005 Classification.

The Carnegie Classification of Institutions of Higher Education is the framework in which institutional diversity in United States higher education is commonly described. Developed in 1971 under the leadership of Clark Kerr by the Carnegie Commission on Higher Education, the Classification was designed to support research in higher education by identifying categories of colleges and universities that would be "homogeneous with respect to the functions of the institutions and characteristics of students and faculty members." Published in 1973, 1976, 1987, and 1994, the Classification groups American colleges and universities according to their missions as revealed in existing data on their behavior. Over the years, it has been a useful tool for researchers and institutional personnel interested in analyzing individual institutions, students and faculty, and the system of higher education as a whole.

The Classification has been widely used for unintended purposes as well, some benign and others not. *U.S. News & World Report* uses the Classification to organize its influential college rankings. Some governmental bodies consult the categories when making decisions about institutional funding. Some foundations target certain grant programs to institutions based on the Classification. Some higher education organizations use the Classification in determining membership dues. Campus officials regularly look to the Classification to gauge where their college fits into the academic pecking order, and to identify peer institutions for comparison purposes. Indeed, because many people perceive the Classification as a ranking system, some institutional leaders adopt "moving up the Carnegie Classification" as an explicit institutional goal.

This complicated situation leaves us at the Foundation with a challenging dilemma. How do we responsibly meet the needs of the research community that has used this tool for decades? How do we mitigate the effects of misinterpretation of the Classification as a ranking system? Most importantly, are there other ways to capture the institutional universe that would make the Classification a more flexible and informative tool, better reflecting the complexity of higher education? Shortly after assuming the presidency of the Foundation in 1997, I convened a group of scholars and experts in the field to consider and weigh these very issues.

We came up with an ambitious two-stage plan. We would publish an updated Classification in 2000 that uses current data and makes limited changes. By 2005 we intend to put in place a Classification system that will replace the present single scheme with a series of classifications that will recognize the many dimensions of institutional commonality and difference.

The 2000 Edition of the Classification represents the first stage of this plan. Our overriding concern in this edition is to update information that has become seriously outdated since 1994. Indeed, the 2000 Classification retains the basic structure of the earlier versions with just a few relatively small changes to definitions and categories. Issues of data comparability, dissatisfaction with certain criteria that have been used in the past, and discomfort with the influence of the Classification in shaping institutional priorities were the factors driving the few changes we made. It is not our intention to signal a new set of standards or targets with this edition, and we have no plans to issue any further editions prior to 2005.

One example of a change is the reduction of the number of categories used to group doctorate-granting institutions from four to two in this edition. We feel that the use of federal obligations (as based on data published by the National Science Foundation) as the *sole* measure of research activity in an institution is inadequate. While we believe that research is an extremely important element of institutional mission, we are also convinced that a nuanced set of measures is needed to reveal research activity more comprehensively. We have chosen to suspend measurement of this attribute until a satisfactory set of indicators has been developed, as well as indicators for other defining components of mission, including teaching and service.

The second stage of the plan, which is already underway, is to conduct the research necessary to implement a 2005 edition of the Classification that will provide a sophisticated, adaptive set of tools that allows users to cluster institutions in several different ways. Our goal in developing a multiple classification system is to provide a series of lenses through which to examine and analyze institutional mission and other important differences among institutions. Users of such a system will have to make deliberate choices about which dimensions are relevant for a given purpose. Our hope is that this system will reveal varied pictures of the institutional universe, capturing in a more authentic way the true complexity of the U.S. higher education system. Such a system should serve the needs of both the higher education research community and other users more faithfully than a single monolithic classification scheme.

One of the greatest strengths of the higher education system in the United States is its diversity of institutions. One pernicious effect of the Carnegie Classification from the perspective of the Foundation is the tendency for many institutions to emulate the model of a large research university. It is our hope that the multiple lenses of the 2005 classification system will encourage institutions to fulfill their distinct missions. Until then, we present this update of the classic Carnegie Classification of Institutions of Higher Education.

ACKNOWLEDGMENTS

USING EMPIRICAL DATA TO CLASSIFY ALL INSTITUTIONS of higher education is a complex enterprise, and many people have contributed to the 2000 edition of the Carnegie Classification.

Early in our process, Clark Kerr and Marian Gade gave generously of their time and provided valuable information on the Classification's origins and subsequent development.

At the Carnegie Foundation, Mary Taylor Huber supplied valuable institutional memory on the Classification's history at the Foundation. She also chaired the internal committee that guided the difficult choices we confronted in creating this revision. Other members included Foundation President Lee Shulman, Executive Vice President John Barcroft, Secretary Johanna Wilson, and Senior Scholars Thomas Ehrlich and Alexander McCormick. Jacki Calvert fielded countless telephone and e-mail inquiries regarding the revision of the Classification and assisted in the preparation of this publication. Gay Clyburn helped to craft our dissemination plan, handled inquiries from the press, and edited this publication with assistance from Amanda Yu. Gary Otake redesigned the Classification section of the Foundation's web site, and formatted both preliminary and final versions of the 2000 edition for the web. Sarah Gilbert provided vital assistance at every stage of the project, and Sandra Staklis assisted with the publication.

Mary Jean Whitelaw, former director of Data Management at the Foundation, served as consultant to the project, generously sharing her knowledge of the Classification and also researching various alternatives for this edition. John Minter of JMA Associates also contributed valuable information on the Classification's history and uses. Ellen Liebman provided vital statistical programming support, creating the analysis files on which the 2000 Classification is based.

At the National Center for Education Statistics, C. Dennis Carroll, Roslyn Korb, Susan Broyles, and Samuel Barbett each facilitated our use of data from the Integrated Postecondary Education Data System (IPEDS). Fritz Hafner of Higher Education Publications, Inc. generously provided a data file from which the Classification universe was derived. Judy Irwin of the American Council on Education arranged a meeting with members of the Washington Higher Education Secretariat to discuss our proposed revisions, and association representatives in attendance provided informative and helpful feedback. In the course of preparing *The Chronicle of Higher Education*'s coverage of this revision, Juhanne Basinger and Jean Evangelauf helped to identify errors in the preliminary version.

Jackie Arthur of Leap O Faith Design designed the publication.

Finally, countless institutional personnel assisted us in resolving data questions and in appropriately classifying their institutions.

The 2000 Carnegie Classification includes all colleges and universities in the United States that are degree-granting and accredited by an agency recognized by the U.S. Secretary of Education. The 2000 edition classifies institutions based on their degree-granting activities from 1995-96 through 1997-98. For definitions and detailed information on classification procedures, refer to the Technical Notes. In addition, important limitations are documented in The 2000 Carnegie Classification: Background and Description.

Doctoral/Research Universities

Doctoral/Research Universities—Extensive: These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the doctorate. During the period studied, they awarded 50 or more doctoral degrees per year across at least 15 disciplines.

Doctoral/Research Universities—Intensive: These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the doctorate. During the period studied, they awarded at least 10 doctoral degrees per year across three or more disciplines, or at least 20 doctoral degrees per year overall.

Master's Colleges and Universities

Master's Colleges and Universities I: These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the master's degree. During the period studied, they awarded 40 or more master's degrees per year across three or more disciplines.

Master's Colleges and Universities II: These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the master's degree. During the period studied, they awarded 20 or more master's degrees per year.

Baccalaureate Colleges

Baccalaureate Colleges—Liberal Arts: These institutions are primarily undergraduate colleges with major emphasis on baccalaureate programs. During the period studied, they awarded at least half of their baccalaureate degrees in liberal arts fields.

Baccalaureate Colleges—General: These institutions are primarily undergraduate colleges with major emphasis on baccalaureate programs. During the period studied, they awarded less than half of their baccalaureate degrees in liberal arts fields.

Baccalaureate/Associate's Colleges: These institutions are undergraduate colleges where the majority of conferrals are below the baccalaureate level (associate's degrees and certificates). During the period studied, bachelor's degrees accounted for at least 10 percent of undergraduate awards.

Associate's Colleges

These institutions offer associate's degree and certificate programs but, with few exceptions, award no baccalaureate degrees.[1] This group includes institutions where, during the period studied, bachelor's degrees represented less than 10 percent of all undergraduate awards.

[1] This group includes community, junior, and technical colleges.

Specialized Institutions

These institutions offer degrees ranging from the bachelor's to the doctorate, and typically award a majority of degrees in a single field. The list includes only institutions that are listed as separate campuses in the *2000 Higher Education Directory*.

Theological seminaries and other specialized faith-related institutions: These institutions primarily offer religious instruction or train members of the clergy.

Medical schools and medical centers: These institutions award most of their professional degrees in medicine. In some instances, they include other health professions programs, such as dentistry, pharmacy, or nursing.

Other separate health profession schools: These institutions award most of their degrees in such fields as chiropractic, nursing, pharmacy, or podiatry.

Schools of engineering and technology: These institutions award most of their bachelor's or graduate degrees in technical fields of study.

Schools of business and management: These institutions award most of their bachelor's or graduate degrees in business or business-related programs.

Schools of art, music, and design: These institutions award most of their bachelor's or graduate degrees in art, music, design, architecture, or some combination of such fields.

Schools of law: These institutions award most of their degrees in law.

Teachers colleges: These institutions award most of their bachelor's or graduate degrees in education or education-related fields.

Other specialized institutions: Institutions in this category include graduate centers, maritime academies, military institutes, and institutions that do not fit any other classification category.

Tribal Colleges and Universities

These colleges are, with few exceptions, tribally controlled and located on reservations. They are all members of the American Indian Higher Education Consortium.

Institutional Universe

The Carnegie Classification's universe of institutions is defined as all degree-granting colleges and universities that are accredited by an agency recognized by the U.S. Secretary of Education. Operationally, the universe is derived from the listings in the *2000 Higher Education Directory*, which is a comprehensive source on institutions' degree offerings and accreditation. With the exception of system offices and non-degree-granting institutions, every effort was made to assign a classification for each entity listed in the *Directory*.

Data Source

All analyses are based on the 1995-96 through 1997-98 "Completions" surveys of the Integrated Postsecondary Education Data System (IPEDS) from the National Center for Education Statistics (NCES). The Carnegie Classification thus inherits the degree and field definitions used in IPEDS. For information on IPEDS, see: http://nces.ed.gov/ipeds.

Definitions

Doctoral degrees

Doctoral degrees are defined in the IPEDS Completions survey to include the Ph.D. in any field as well as other doctoral-level degrees such as the Doctor of Education, Doctor of Juridical Science, and Doctor of Public Health. Degrees defined as first-professional degrees in IPEDS are not counted among doctoral degrees.

Academic disciplines

The IPEDS Completions data report degree conferrals by field of study according to a standard taxonomy called the *Classification of Instructional Programs* (CIP). The CIP uses a numeric coding scheme to organize instructional programs into three levels of aggregation (the 2-, 4-, and 6-digit series under the CIP coding scheme) (Morgan, Hunt, and Carpenter, 1990). For information on the CIP, see: http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=91396.

For the purpose of identifying distinct disciplines for master's degrees and doctorates, the intermediate aggregation of the CIP (4-digit series) was used, with two exceptions: for degrees reported under "Miscellaneous Biological Specializations" (26.06) and "Miscellaneous Physical Sciences" (40.07), the 6-digit codes were treated as distinct disciplines. Specialized institutions were identified in most cases by using the highest level of aggregation (2-digit series).

Liberal arts fields

The liberal arts were defined to comprise the following categories from the CIP: English language and literature/letters; foreign languages and literatures; biological sciences/life sciences; mathematics; philosophy and religion; physical sciences; psychology; social sciences and history; visual and performing arts; area, ethnic, and cultural studies; liberal arts and sciences, general studies, and humanities; and multi/interdisciplinary studies.

Determining an Institution's Classification

Because the category definitions are not mutually exclusive, the categories were assigned in a particular order. At each successive step, only institutions not yet classified were considered. The following sequence was followed:

1. Institutions that conferred no degrees at or above the bachelor's level were assigned to the Associate's category. This included institutions with no conferral data whose highest offering (from IPEDS Institutional Characteristics or from the *Higher Education Directory*) was less than a bachelor's degree.

2. The extent of an institution's concentration of degrees in a single field (across all degree levels) was examined for possible classification in one of the specialized categories.

3. Institutions conferring a total of at least 50 doctorates per year across at least 15 fields were assigned to Doctoral/Research Universities—Extensive.

4. Institutions conferring a total of at least 10 doctorates per year across at least 3 fields, or 20 doctorates overall, were assigned to Doctoral/Research Universities—Intensive.

5. Institutions conferring a total of at least 40 master's degrees per year across at least 3 fields were assigned to Master's Colleges and Universities I.

6. Institutions conferring a total of at least 20 master's degrees per year were assigned to Master's Colleges and Universities II.

7. Institutions where bachelor's degrees account for less than 10 percent of all undergraduate awards (including certificates) were assigned to Associate's Colleges.

8. Institutions where bachelor's degrees account for at least 10 percent but less than 50 percent of all undergraduate awards (including certificates) were assigned to Baccalaureate/Associate's Colleges.

9. Institutions where bachelor's degrees account for at least 50 percent of all undergraduate awards (including certificates) and where at least 50 percent of bachelor's degrees are in liberal arts fields were assigned to Baccalaureate Colleges—Liberal Arts.

10. Institutions where bachelor's degrees account for at least 50 percent of all undergraduate awards (including certificates) but less than 50 percent of bachelor's degrees are in liberal arts fields were assigned to Baccalaureate Colleges—General.

The 2000 Carnegie Classification was created using the most current data available for a three-year period, from 1995-96 through 1997-98. Each institution was classified twice: first by averaging data for the three years, and second by using the most recent year's data (1997-98) alone. In cases where the two approaches suggested different classifications, we contacted institutional leaders for assistance (the default classification was based on the three-year averages).

Additional Technical Notes

- Data imputed by NCES were treated as equivalent to institutional responses.
- The use of three-year averages means that a per-year statistic (number of degrees, number of fields, or proportion of degrees) was calculated using data from 1995-96 through 1997-98. When data were not available for all three years, averages were computed using available data.
- When computing the three-year statistic for proportions (e.g., proportion of bachelor's degrees in the liberal arts), the data were summed across the three years and the proportion was then calculated (as opposed to calculating three proportions and averaging them).
- Discipline counts are not cumulative (i.e., the three-year average is a simple average of the number of disciplines represented by each year's conferrals).

Downloadable Data File

The Carnegie Classification is available for download (as a spreadsheet file) from the Carnegie Foundation's web site at http://www.carnegiefoundation.org/classification.

TABLE 1 ENTERING CLASS OF HIGHER EDUCATION INSTITUTIONS BY 2000 CARNEGIE CLASSIFICATION

CATEGORY	NUMBER OF INSTITUTIONS	PERCENTAGE DISTRIBUTION
Total	4,084	100.0
Doctoral/Research Universities	261	6.4
Doctoral/Research Universities—Extensive	151	3.7
Doctoral/Research Universities—Intensive	110	2.7
Master's Colleges and Universities	511	12.5
Master's Colleges and Universities I	393	9.6
Master's Colleges and Universities II	118	2.9
Baccalaureate Colleges	618	15.1
Baccalaureate Colleges—Liberal Arts	332	8.1
Baccalaureate Colleges—General	331	8.1
Baccalaureate/Associate's Colleges	57	1.4
Associate's Colleges	1,559	38.2
Specialized Institutions	766	18.8
Theological seminaries and other specialized faith-related institutions	314	7.7
Medical schools and medical centers	54	1.3
Other separate health profession schools	97	2.4
Schools of engineering and technology	66	1.6
Schools of business and management	49	1.2
Schools of art, music, and design	87	2.1
Schools of law	25	0.6
Teachers colleges	6	0.1
Other specialized institutions	70	1.7
Tribal Colleges and Universities	28	0.7

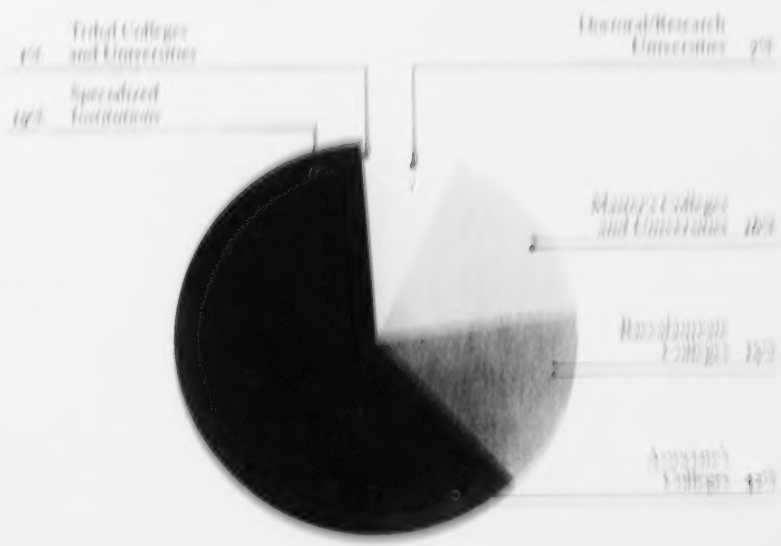
NOTES: Figures in italics are aggregated from subcategories. Percentage details may not sum to totals due to rounding.

TABLE 2 DISTRIBUTION OF HIGHER EDUCATION INSTITUTIONS BY 2000 CARNEGIE CLASSIFICATION AND CONTROL

	NUMBER			PERCENTAGE DISTRIBUTION[1]		
CATEGORY	PUBLIC	PRIVATE NOT-FOR-PROFIT	PRIVATE FOR-PROFIT	PUBLIC	PRIVATE NOT-FOR-PROFIT	PRIVATE FOR-PROFIT
Total	1,044	1,081	617	41.7	43.2	15.2
Doctoral/Research Universities	106	91	2	53.8	46.2	1.0
Doctoral/Research Universities—Extensive	101	91	0	52.6	47.4	0
Doctoral/Research Universities—Intensive	54	44	2	54.4	44.3	1.3
Master's Colleges and Universities	292	211	8	57.4	41.5	1.1
Master's Colleges and Universities I	143	130	1	51.3	46.6	0.4
Master's Colleges and Universities II	21	81	7	20.8	77.2	2.0
Baccalaureate Colleges	91	399	18	18.0	78.1	3.5
Baccalaureate Colleges—Liberal Arts	30	213	0	11.9	88.0	0
Baccalaureate Colleges—General	30	102	3	13.9	83.9	1.2
Baccalaureate Colleges—Specialized	31	84	15	25.4	68.9	12.3
Associate's Colleges	1,055	139	375	71.5	9.5	19.1
Specialized Institutions	92	586	196	9.2	22.4	13.5
Theological seminaries and other specialized faith-related institutions	0	311	1	0	98.7	0.3
Medical schools and medical centers	50	24	0	55.6	44.4	0
Other separate health profession schools	2	84	11	2.1	86.6	11.3
Schools of engineering and technology	9	16	41	13.6	24.2	62.1
Schools of business and management	0	34	15	0	69.4	30.6
Schools of art, music, and design	5	57	25	5.7	65.5	28.7
Schools of law	2	21	2	8.0	84.0	8.0
Teachers colleges	1	5	0	16.7	83.3	0
Other specialized institutions	18	41	11	25.7	58.6	15.7
Tribal Colleges and Universities[2]	24	6	0	78.6	21.4	0

NOTES: Figures in italics are aggregated from subcategories. Percentage details may not sum to totals due to rounding.
[1] Rows sum to 100 percent.
[2] Tribally controlled institutions are included in the Public columns.

FIGURE 1 PERCENTAGE DISTRIBUTION OF HIGHER EDUCATION INSTITUTIONS BY 2000 CARNEGIE CLASSIFICATION



THE 2000 CARNEGIE CLASSIFICATION: BACKGROUND AND DESCRIPTION

Alexander C. McCormick, Senior Scholar
The Carnegie Foundation for the Advancement of Teaching

The Carnegie Classification of Institutions of Higher Education is a taxonomy of U.S. higher education institutions that has been used for a wide variety of purposes over three decades. The following pages contain a brief outline of the Classification's history, a summary of noteworthy changes and important caveats for this edition, and a presentation of descriptive data about the Classification and the institutions in each of its categories.

Background

The Carnegie Classification was developed in the early 1970s by the Carnegie Commission on Higher Education to serve its research needs. Although it was used in Commission reports as early as 1971, a comprehensive list of institutions by Classification category was not published until 1973. In the foreword to that publication, Commission chair Clark Kerr described the Classification's genesis and purpose:

> At an early stage in its work, the Carnegie Commission on Higher Education recognized the need for a classification of institutions that would be more useful for purposes of analysis than existing classifications. We sought to identify categories of colleges and universities that would be relatively homogeneous with respect to the functions of the institutions as well as with respect to characteristics of students and faculty members. (Carnegie Commission, 1973, p. v)

Kerr went on to explain that the Commission "decided to make the Classification available in published form because we felt that it would be helpful to many individuals and organizations that are engaged in research on higher education" (p. vi). Thus, the Carnegie Classification was developed and subsequently disseminated as a research tool. It was intended neither as a ranking of institutions, nor as a policy lever to drive institutional change.

In *The Rise of American Research Universities* (1997), Hugh Davis Graham and Nancy Diamond write that "the Carnegie system was designed to pull the attention of policy makers away from the nation's research institutions, and to emphasize instead the variety and social importance of the vast majority of institutions that were not research oriented" (p. 53). Indeed, in one of the first reports to use the new system, the Commission recommended "preserving and even increasing the diversity of institutions of higher education by type and by program, resisting homogenization" and "holding steady the number of universities" (Carnegie Commission, 1971, pp. 8–9).

Because of its emphasis on institutional "functions," the Classification is widely interpreted as differentiating colleges and universities with respect to mission. In this respect, one of the Classification's strengths is its grounding in objective data on institutional behavior: to the extent that it differentiates institutions by mission, it is mission as revealed in institutional action.

The Carnegie Classification from 1973 through 1994

The 1973 publication introduced the category labels that have come to be closely identified with the classification system (table 3).[2] Revised editions were published in 1976, 1987, and 1994, to take account of both changes within institutions as well as changes in the universe of institutions (e.g., new institutions, closures, and mergers). Each revision retained the structure of the 1973 edition, with the addition or deletion of special categories,[3] small changes to category labels in 1976 and 1987, and more substantial label changes in 1994.

TABLE 3 THE CARNEGIE CLASSIFICATION OF INSTITUTIONS OF HIGHER EDUCATION: 1973 AND 1994

1973	1994
Doctoral-Granting Institutions	Doctorate-Granting Institutions
Research Universities I	Research Universities I
Research Universities II	Research Universities II
Doctoral-Granting Universities I	Doctoral Universities I
Doctoral-Granting Universities II	Doctoral Universities II
Comprehensive Universities and Colleges	Master's (Comprehensive) Colleges and Universities
Comprehensive Universities and Colleges I	Master's (Comprehensive) Colleges and Universities I
Comprehensive Universities and Colleges II	Master's (Comprehensive) Colleges and Universities II
Liberal Arts Colleges	Baccalaureate Colleges
Liberal Arts Colleges I	Baccalaureate (Liberal Arts) Colleges I
Liberal Arts Colleges II	Baccalaureate Colleges II
Two-Year Colleges and Institutes	Associate of Arts Colleges
Professional Schools and Other Specialized Institutions	Specialized Institutions
Theological seminaries, Bible colleges and other institutions offering degrees in religion	Theological seminaries, Bible colleges and other institutions offering degrees in religion
Medical schools and medical centers	Medical schools and medical centers
Other separate health professional schools	Other separate health profession schools
Schools of engineering and technology	Schools of engineering and technology
Schools of business and management	Schools of business and management
Schools of art, music, and design	Schools of art, music, and design
Schools of law	Schools of law
Teachers colleges	Teachers colleges
Other specialized institutions	Other specialized institutions
	Tribal Colleges and Universities

SOURCES: Carnegie Commission on Higher Education, 1973 and Carnegie Foundation for the Advancement of Teaching, 1994.

[2] Many labels were different in the first published uses of the Classification. For example, in 1971 the four doctorate-granting categories were identified as "Heavy emphasis on research," "Moderate emphasis on research," "Moderate emphasis on doctoral programs," and "Limited emphasis on doctoral programs" (Carnegie Commission, 1971). In 1972, these became "Research and doctoral granting universities" I and II and "Doctoral granting universities" I and II (Carnegie Commission, 1972).

[3] Institutions for Nontraditional Study (1976 only), Corporate-sponsored Institutions (1987 only), and Tribal Colleges and Universities (1994).

Although the Classification's overall structure has been quite stable, it is important to recognize that category *definitions* have changed. This fact is frequently overlooked by those who undertake trend analysis using the Classification. A noteworthy example is the definition of Research Universities I and II (table 4). In 1973 and 1976, the Research I category was capped at 50 institutions,[4] and the number of institutions in Research I and II was kept in rough parity. While federal funding was a criterion in all four versions, the 1973 and 1976 criteria effectively limited the two categories to the top 50 and second 50 institutions in federal research support. In addition, the 1973 and 1976 criteria for Research II included national rank in doctoral production, which was dropped in later editions. In 1987, changes to the criteria both uncapped the size of these categories and eliminated their rough numerical parity. As a result, by 1994 the number of Research I universities was nearly twice what the original criteria allowed, almost equaling the combined size of the original Research I and II categories. In addition, by 1994 Research I universities made up a much larger share of the combined Research categories (89 out of 126 institutions) (figure 2). The definitions of the Doctoral, Comprehensive (or Master's) and Liberal Arts (or Baccalaureate) categories have also changed markedly over the Classification's history (appendix tables A1–A3). The point is not to question the desirability or appropriateness of these changes, but simply to illustrate the sometimes considerable discontinuities in what these categories have represented over time, despite the relative stability in the Classification's overall structure and organization.

[4] There were slightly more than 50 Research Universities I in 1973 and 1976 because the Commission included some institutions by exception.

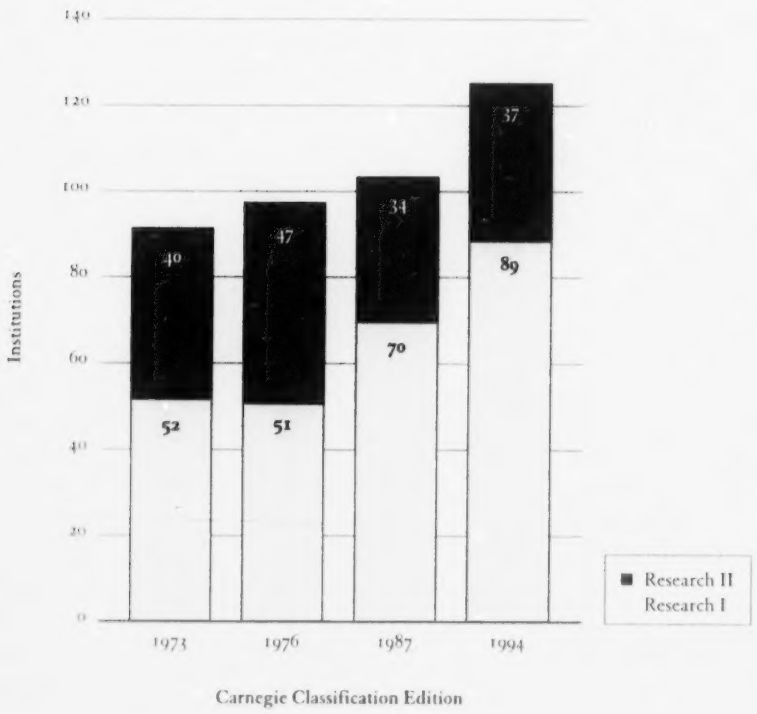
TABLE 4 CHANGING CRITERIA FOR RESEARCH UNIVERSITIES I AND II: 1973–94

YEAR	RESEARCH UNIVERSITIES I	RESEARCH UNIVERSITIES II
1973	The 50 leading universities in terms of federal financial support of academic science in at least two of the three academic years, 1968-69, 1969-70, and 1970-71, provided they awarded at least 50 Ph.D.s (plus M.D.s if a medical school was on the same campus) in 1969-70.	These universities were on the list of the 100 leading institutions in terms of federal financial support in at least two out of the above three years and awarded at least 50 Ph.D.s (plus M.D.s if a medical school was on the same campus) in 1969-70, or they were among the leading 50 institutions in terms of the total number of Ph.D.s (plus M.D.s if a medical school was on the same campus) awarded during the years from 1960-61 to 1969-70.
1976	The 50 leading universities in terms of federal financial support of academic science in at least two of the three academic years, 1972-73, 1973-74, and 1974-75, provided they awarded at least 50 Ph.D.s (plus M.D.s if a medical school was on the same campus) in 1973-74.	These universities were on the list of the 100 leading institutions in terms of federal financial support in at least two out of the above three years and awarded at least 50 Ph.D.s (plus M.D.s if a medical school was on the same campus) in 1973-74. At least 25 of these degrees must have been Ph.D.s. Alternatively, the institution was among the leading 60 institutions in terms of the total number of Ph.D.s awarded during the years from 1965-66 to 1974-75.
1987	These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate degree, and give high priority to research. They receive annually at least $33.5 million in federal support and award at least 50 Ph.D. degrees each year.	These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate degree, and give high priority to research. They receive annually between $12.5 million and $33.5 million in federal support for research and development and award at least 50 Ph.D. degrees each year.
1994	These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate degree, and give high priority to research. They award 50 or more doctoral degrees each year. In addition, they receive annually at least $40 million or more in federal support.	These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate degree, and give high priority to research. They award 50 or more doctoral degrees each year. In addition, they receive annually between $15.5 million and $40 million in federal support.

SOURCES: Carnegie Commission on Higher Education, 1973; Carnegie Council on Policy Studies in Higher Education, 1976; Carnegie Foundation for the Advancement of Teaching, 1987 and 1994.

NOTE: Additional wording concerning exceptional cases (1973 and 1976) has been excluded.

FIGURE 2 NUMBER OF INSTITUTIONS CLASSIFIED AS RESEARCH UNIVERSITIES I AND II: 1973–94



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The 2000 Carnegie Classification

The 2000 edition of the Carnegie Classification retains the basic structure that was established in 1971, with two changes: we have reduced the number of categories of doctorate-granting institutions from four to two, and we have added a new category of baccalaureate colleges. As in the past, we have also made changes to selected category definitions and labels. For the doctorate-granting categories, we have discontinued the use of federal support as a basis for classification. In its place we have extended the previous use of doctoral field coverage. Among baccalaureate colleges, we have discontinued the use of admissions selectivity as a criterion, and increased the proportion of majors in liberal arts fields for a college to be included in the liberal arts category.

In addition to structural changes, we have adopted new category labels when the underlying criteria are different from the previous edition.[5] In so doing, we intend to signal discontinuities in what the categories represent, thereby discouraging improper inferences about institutional change. The new labels do not use Roman numerals to identify distinct categories. While the numerals permit easy abbreviation and reduce verbiage in text and tables, we are concerned that their use may improperly suggest a ranking.[6] A brief explanation of this edition's changes appears below.

Motivation for Changes: Doctorate-granting Institutions

We eliminated the use of federal funding to differentiate doctorate-granting institutions for two reasons. First, federal support is at best a rough proxy for an institution's research activity that suffers from several weaknesses. Not all research is federally funded, and institutions differ in the proportion of all research that is funded from federal sources. Similarly, academic fields differ in their reliance on federal research funding and also in the costs associated with research. Thus a focus on federal dollars pays greater attention to fields that are heavily dependent on federal funding and also to fields where research requires substantial investments. The federal obligations data are also blind to the pass-through of funds from one institution to another, as happens in the case of large projects involving research teams at different institutions. All of these factors compromise the accuracy of federal obligations as a gauge of overall research activity.

Second, the previous definitions are not reproducible using current data. The 1994 edition used total federal obligations to institutions, using data from the National Science Foundation (NSF) report series, *Federal Support to Universities, Colleges, and Nonprofit Institutions*. These reports included data on federal agencies' obligations to colleges and universities for science and engineering (S&E) as well as non-S&E obligations. Beginning with fiscal year 1993 the NSF ceased reporting data on non-S&E obligations due to changes in data reporting by the U.S. Department of Education (which accounted for 91 percent of non-S&E obligations in 1993) (NSF, 1996: 11). While a statistical adjustment for this change would be feasible (in addition to adjustments for inflation and for other changes in federal support), the shift from total obligations to science and engineering obligations means that the new categories would not be comparable with the previous ones.

Given that a loss of comparability was inevitable, we decided against contriving an adjustment to afford continued use of an unsatisfactory measure. As noted in the foreword, we are planning a major overhaul of the classification system for 2005, and this agenda includes the development of more comprehensive and satisfactory measures of research activity.

The decision to discontinue the use of federal funding as a differentiating factor led us also to question the value of continuing four distinct categories of doctorate-granting institutions. This group of institutions, representing about 7 percent of the universe of institutions in the 1994 Classification, has been much more finely differentiated than the other major institutional groupings. In 1994 Master's Colleges and Universities and Baccalaureate Colleges, with two categories each, represented respectively about 15 and 18 percent

[5] We have also changed selected labels in the interest of greater precision.

[6] The Master's Colleges and Universities categories retain the Roman numerals because the criteria are unchanged from the 1994 edition. Thus, just as label changes signal changes in the underlying criteria, continuity in these labels reflects the continuity in what they represent.

of the universe of institutions, and Associate of Arts Colleges, with no further differentiation, represented 41 percent of the universe. We have also noted that when the Classification has been used in higher education research, the four categories of doctorate-granting institutions are frequently combined into two larger aggregates.

Finally, intense status competition exists among doctorate-granting universities, and at some institutions this has led to aspirations for mobility within the Carnegie Classification—despite our insistence that the classification system is not a ranking of institutions. A concern with "moving up the Carnegie Classification" is not necessarily irrational or dysfunctional. When queried as to the importance of an institution's classification in particular categories, many senior administrators posited a link to faculty and administrative recruitment. At public institutions, some cited the use of the Carnegie Classification for peer comparisons and the consequences for state funding, or the existence of mechanisms that designate different funding strata according to schemes based on or resembling the Classification. These factors notwithstanding, while we fully support the drive for institutional improvement and the measurement of progress toward institutional goals, we have serious reservations about the appropriateness of the Carnegie Classification for these purposes. Our decision to reduce the differentiation of doctorate-granting institutions reflected these concerns, as well.

Previous editions of the Classification have used the volume of doctoral production and also the number of academic fields represented by doctoral conferrals among the criteria to differentiate doctorate-granting institutions. For this edition, we have built upon this legacy to produce two categories of doctoral universities, Doctoral/Research Universities—Extensive, comprising institutions that award a substantial number of doctorates across a wide range of fields, and Doctoral/Research Universities—Intensive, which award doctorates in smaller numbers or in a more limited set of fields. As will be shown below, the close relationship between doctoral training and the conduct of academic research leads to a correspondence between these categories and two different measures of research funding.

Motivation for Changes: Baccalaureate Colleges

As noted above, we have made two substantive changes to the Baccalaureate Colleges categories. We have discontinued the use of selectivity as a differentiating criterion, and we have introduced a third category, "Baccalaureate/Associate's Colleges."

In early versions of the Carnegie Classification, baccalaureate colleges were not differentiated according to their liberal arts emphasis. Indeed, all such institutions were identified as "Liberal Arts Colleges." The Classification instead differentiated colleges according to selectivity of admissions and the number of their graduates who went on to complete the Ph.D. at "leading" universities (appendix table A3). The latter criterion was dropped in 1987, in favor of a measure of the proportion of students majoring in liberal arts fields. In 1994 this change was continued (with an adjustment to the threshold proportion) and reflected in the category labels, which were changed to "Baccalaureate (Liberal Arts) Colleges I" and "Baccalaureate Colleges II."

In reassessing these categories for the 2000 edition, we came to question the value of continued use of the selectivity criterion in light of the evolution of these categories to differentiate colleges according to their emphasis on the liberal arts. First, selectivity of undergraduate admissions is a characteristic that could be used to differentiate all institutions with an undergraduate program, and we were unable to justify its application to this subset of institutions alone. Second, selectivity is frequently used by researchers as a proxy for institutional "quality" and its usage may reinforce perceptions that the Classification makes quality distinctions among institutions. Third, the measure used is not a direct measure of selectivity, but rather a measure of achievement characteristics of entering students.[7] As such it merely measures one set of "inputs" to the educational process, without reference to the institutions' educational activities. Finally and most importantly, selectivity is neither a necessary condition nor a defining feature of a liberal arts education. Indeed, a

[7] In 1994 the measure was an index combining students' scores on entrance examinations and their high school class rank. Even if one were satisfied with achievement characteristics as an indirect measure of selectivity, it would be preferable to use such measures for the entire group of admitted students rather than for the subset who chose to enroll.

reanalysis of the 1994 data shows that a number of institutions with a strong liberal arts emphasis (as revealed by the majors of their graduates) were excluded solely due to the achievement characteristics of entering students.

In addition to dropping selectivity, we increased the proportion of majors in the liberal arts that is required for classification in the "liberal arts" category (from 40 percent to 50 percent). In so doing, we have sharpened this category's focus on the liberal arts, such that it identifies colleges where a majority of graduates receive degrees in liberal arts fields.

We have added a third category of baccalaureate colleges where the majority of conferrals are at the subbaccalaureate level, but where bachelor's degrees account for at least 10 percent of all conferrals (unless they qualify for inclusion in one of the Specialized categories). In the past, whether to classify such institutions among Associate of Arts Colleges or Baccalaureate Colleges II was a matter of judgment. We felt it desirable to implement an explicit criterion for classifying these colleges. We also noted that a number of institutions are in the midst of a transition from two-year to four-year status. The addition of this hybrid category appropriately describes such institutions, and we expect that in future years a majority of their conferrals will be at the baccalaureate level.

Constraints and Cautions

The Carnegie Classification is a heuristic tool for grouping institutions. It identifies certain commonalities among institutions that are suggested by descriptive data about their activities during a specified time frame. The Classification is a great simplification of what colleges and universities do, and only one of countless ways that they might be grouped. It does not purport to identify the fundamental character of an institution, and many important facets of institutional activity and identity are not taken into account. A significant constraint for an exercise such as the Classification is the need for comparable data for all institutions. It is often necessary to strike a compromise between a concept of interest (e.g., liberal arts emphasis) and the way the concept can be operationalized using national data (proportion of graduates majoring in selected fields). And in many cases, data that would be useful for institutional differentiation are simply not available, or not available for all relevant institutions.

Considerable institutional diversity exists within most categories of the Classification, and many arguments can be made for further differentiation. However, no single differentiation scheme suits all purposes, and indeed arguments for still finer differentiation would remain. Fortunately, the array of available data on higher education institutions is much richer today than it was when the Classification was developed three decades ago, and technological advances have simplified the task of accessing and integrating data from multiple sources. Researchers who desire greater disaggregation can take advantage of these changes and make their own decisions about the data sources, variables, and subcategory definitions that are relevant to a given purpose.[8]

The remainder of this section highlights several important considerations that users of the Classification should understand. Previous editions of the Classification have not included such an explicit treatment of these concerns, but most, if not all, apply equally to previous editions.

A SNAPSHOT OF INSTITUTIONAL BEHAVIOR

The Carnegie Classification is a retrospective snapshot of institutions' activities during a fixed time period, in this case academic years 1995-96 through 1997-98.[9] It is necessarily retrospective for several reasons:

- It requires objective data about institutional behavior, which necessitates a look backward in time;
- Data on degree conferrals reflect the completion of educational programs, and thus tell us about educational activities in the past; and

[8] The Carnegie Classification is available for download (as a spreadsheet file) from the Carnegie Foundation's web site at http://www.carnegiefoundation.org/classification. The file includes institutional identifiers that are commonly used in other data sets.

[9] This period represents the most recent three years for which data were available.

- Time lags exist between the conferral of degrees and the collection, editing, and release of national data on conferrals by all institutions.

Because it is a retrospective account, it is inevitable that changes at some institutions—such as the addition, expansion, or elimination of degree programs—will be too recent to be reflected in the Carnegie Classification. Users of the 2000 Classification should be mindful that it characterizes institutions' activities between 1995-96 and 1997-98, and that any number of institutions might be classified differently using more recent data. For many purposes, it may be inappropriate to "type" an institution rigidly based on its Carnegie Classification.

SENSITIVITY TO CHANGES AND TRENDS

The Carnegie Classification has traditionally used three-year averages to classify institutions. This approach has the advantage of smoothing out year-to-year fluctuations, but it can also mask trends in institutional change. For the 2000 edition, we modified our procedures to improve the Classification's sensitivity to trends and other recent changes that might be overlooked by exclusive reliance on three-year averages. We classified each institution twice, once using three-year averages and once using data from the most recent year (1997-98) in isolation. In the vast majority of cases, the two procedures yielded identical conclusions. When they did not, we contacted the institution's leadership for assistance in assigning an appropriate classification.

DISCRETE CATEGORY BORDERS

As in the past, category definitions involve objective criteria such as the number of degrees awarded, the number of fields in which degrees were awarded, and the proportion of bachelor's degrees in liberal arts fields. Inevitably, some institutions fall very close to one of these criterion values, in effect on the boundary that separates categories of the Classification. Institutions close to—but on opposite sides of—such a boundary may be objectively quite similar and yet fall into different classification categories. For example, a baccalaureate college where 50 percent of graduates major in liberal arts fields would be classified among Baccalaureate Colleges—Liberal Arts, while another where 49 percent of graduates major in those fields would not. Yet the two institutions are objectively quite similar, perhaps even resembling each other more than they resemble most institutions in their assigned Carnegie Classification. Such results are common when continuous variables are converted to discrete categories. While it might be feasible to identify a margin around each criterion and permit institutions within these margins to select the appropriate category, this merely displaces the problem as some institutions would fall close to, but outside, each margin's boundary.

The dual classification procedure described above mitigates this difficulty to some extent, because each criterion was calculated twice using different time referents (three-year average and most recent year). This enabled us to identify institutions where the evidence supports their placement in either of two categories, in which case we sought assistance in assigning an appropriate classification. But there remain institutions close to category boundaries where both approaches yield the same result. This ambiguity near category borders is another reason why the Classification should not be interpreted as characterizing the fundamental nature of an institution, and why the rigid typing of institutions based on the Classification may not always be appropriate.

CAMPUS FOCUS

Although entities listed in the Carnegie Classification are referred to as "institutions," in some instances they are in fact campuses of a larger institution. Since its initial development, the Classification has made distinctions at the campus level. This is appropriate given its emphases on functions and student and faculty characteristics, and given that campuses are often functionally differentiated. However, distinct campuses are not always identified in the *Higher Education Directory*, and degree completion data are not always available by campus. These factors lead to some inconsistencies in the way multi-campus institutions are classified. As a general rule, if an entity was listed separately in the *Directory* and data were reported separately by the National Center for Education Statistics (NCES), it was listed separately in the Classification. In the absence of NCES data, every effort was made to acquire the information needed to assign a distinct classification.

EXCEPTIONS AND SPECIAL CASES

From the Classification's inception, certain institutions have been included in categories other than those that would result from strict application of the criteria. Despite some reservations about this practice—particularly concerns about modifying criteria and decision rules for certain institutions—for this edition we have followed precedent and made a small number of exceptions on a case-by-case basis. Many of these are institutions with strong traditions and identities as undergraduate colleges, despite the presence of graduate programs of a size sufficient for classification among Master's (or Comprehensive) or even doctorate-granting institutions. In many cases such graduate programs are separated, either geographically or temporally (e.g., summer-only), from the undergraduate program. Another category of exception includes institutions that may award a majority of degrees in a single field but that offer a wider range of programs than is suggested by a specialized classification.

OTHER CONSIDERATIONS

Some groups of institutions share resources on a consortial basis. For example, some doctoral programs are housed within one institution but rely on the contributions of faculty at other consortium member institutions.[10] Such contributions may also occur on a less formal basis, when a student seeks advice, and sometimes formal representation on a dissertation committee, from a faculty member with special expertise who is located at another institution. For classification purposes, only the awarding institution receives "credit" for the doctorates conferred.

Finally, the data on which the Classification is based do not differentiate by division or student type within an institution or campus. Some institutions have a residential program serving a mostly traditional student body as well as evening, satellite, summer, or distance education programs that serve returning students and working adults. Despite considerable differences that may exist between the programs serving these different clienteles, the national data aggregate all of an institution's degree conferrals by degree type. In such cases it is not possible to differentiate degree conferrals along these dimensions, and this may lead to distortions in an institution's Classification.

Descriptive Analysis of the 2000 Carnegie Classification

In this section we present a range of descriptive information about the 2000 Carnegie Classification, as well as some comparisons with previous editions. The descriptive tables pay particular attention to those characteristics that define the Classification categories. This discussion will also highlight ways in which the classification nomenclature may conceal certain features of institutional activity.

Like its predecessors, the 2000 Classification shows considerable diversity in U.S. higher education with respect to degree offerings, field coverage, and specialization (table 1, in the Summary Information section). Of 3,941 institutions of higher education, about one in five (19 percent) offers specialized training in a single field at the bachelor's level or higher. Another fifth of the institutional universe is committed to graduate education: 16 percent through the master's degree, and another 7 percent through the doctorate. The remaining three-fifths are undergraduate colleges: 15 percent at the bachelor's level, and 42 percent at the associate's level (figure 1, in the Category Definitions section).

Almost equal numbers of colleges and universities are under public control or are private, not-for-profit institutions, accounting for 42 and 43 percent of the institutional universe, respectively, while the remaining 16 percent are operated as for-profit enterprises.[11] For-profit institutions are especially common among

[10] The City University of New York Graduate Center is an example. Faculty at the Graduate Center and at the senior colleges in the CUNY system teach and advise doctoral students and serve on dissertation committees, but the doctorates are attributed to the Graduate Center and it is thus the Graduate Center that is classified among doctorate-granting institutions.

[11] Public institutions account for about three-quarters of all students in higher education, reflecting both size differences and the large number of students who attend public community colleges (U.S. Department of Education, 2000, tables 1 & 171).

Associate's Colleges (29 percent) and among certain specialized categories: schools of engineering and technology (62 percent); schools of business and management (31 percent); and schools of art, music, and design (29 percent) (table 2, in the Summary Information section).

A majority of doctorate-granting institutions are public, including fully two out of three in the Doctoral/Research—Extensive category. While half of Master's I institutions are public, private institutions predominate among Master's II institutions and among Baccalaureate Colleges (80 and 85 percent, respectively). Among Associate's Colleges—the largest single category in the classification—about three out of five are public institutions.

Despite changes in category criteria over time and consequent limitations for trend analysis, it is useful to examine the distribution of institutions in the six editions of the Carnegie Classification. While the universe of institutions has grown substantially, from about 2,800 in 1973 to nearly 4,000 in 2000, the contours of the higher education system as captured by the Carnegie Classification have been relatively stable (table 5). The most noteworthy change is the decline in the proportion identified as baccalaureate colleges, from 25 percent in 1973 to 15 percent in 2000. While some colleges have closed their doors or merged with other institutions, much of this change is attributable to the growing market for master's-level training and the expansion of undergraduate colleges into this market (appendix table A4).[12] In addition, Associate's Colleges and Specialized Institutions now account for a somewhat greater proportion of institutions (the former's share rose from 38 to 42 percent, and the latter's share increased from 15 to 19 percent).

[12] Because some institutions that now qualify for the Master's categories have been retained among Baccalaureate Colleges, the decline in strictly bachelor's-granting colleges is in fact slightly greater than that shown in table 5.

	NUMBER					PERCENT				
CATEGORY[1]	1973	1976	1982	1994[2]	2000	1973	1976	1982	1994	2000
Total	2,857	3,072	3,389	3,596	3,941	100.0	100.0	100.0	100.0	100.0
Doctoral/Research Universities	*173*	*184*	*212*	*236*	*261*	*6.1*	*6.0*	*6.3*	*6.6*	*6.6*
Research I & II, Doctoral/Research—Extensive	92	98	104	126	151	3.2	3.2	3.1	3.5	3.8
Doctoral I & II, Doctoral/Research—Intensive	81	86	109	110	110	2.9	2.8	3.2	3.1	2.8
Master's Colleges and Universities	*456*	*594*	*595*	*553*	*611*	*16.1*	*19.3*	*17.6*	*14.8*	*15.5*
Comprehensive I, Master's I	325	381	424	439	496	11.4	12.4	12.5	12.2	12.6
Comprehensive II, Master's II	133	213	171	94	115	4.7	6.9	5.0	2.6	2.9
Baccalaureate Colleges	*741*	*581*	*572*	*645*	*606*	*25.4*	*19.0*	*16.9*	*17.9*	*15.4*
Liberal Arts I, Baccalaureate I, Baccalaureate—Liberal Arts	146	133	143	105	138	5.1	4.0	4.2	3.0	3.5
Liberal Arts II, Baccalaureate II, Baccalaureate—General & Baccalaureate/Associate's Colleges	579	380	430	480	438	20.3	15.0	12.7	13.3	9.0
Two-year, Associate of Arts, Associate's Colleges	*1,061*	*1,140*	*1,263*	*1,283*	*1,389*	*37.4*	*37.4*	*38.1*	*40.2*	*41.1*
Specialized Institutions	*434*	*339*	*643*	*696*	*766*	*14.9*	*18.2*	*18.9*	*19.1*	*19.4*
Institutions for Noncollegiate Study	—	6	—	—	—	—	0.1	—	—	—
Tribal Colleges and Universities	—	—	—	*30*	*58*	—	—	—	*0.8*	*0.7*

SOURCE: Figures in italics are aggregated from subcategories. Percentage details may not sum to totals due to rounding.
[1] Category labels and definitions varied from one edition to the next. Not all categories are comparable over time.
[2] Figures for 1994 differ slightly from those previously published, reflecting revisions made in 1997.
— Not applicable.

Enrollment

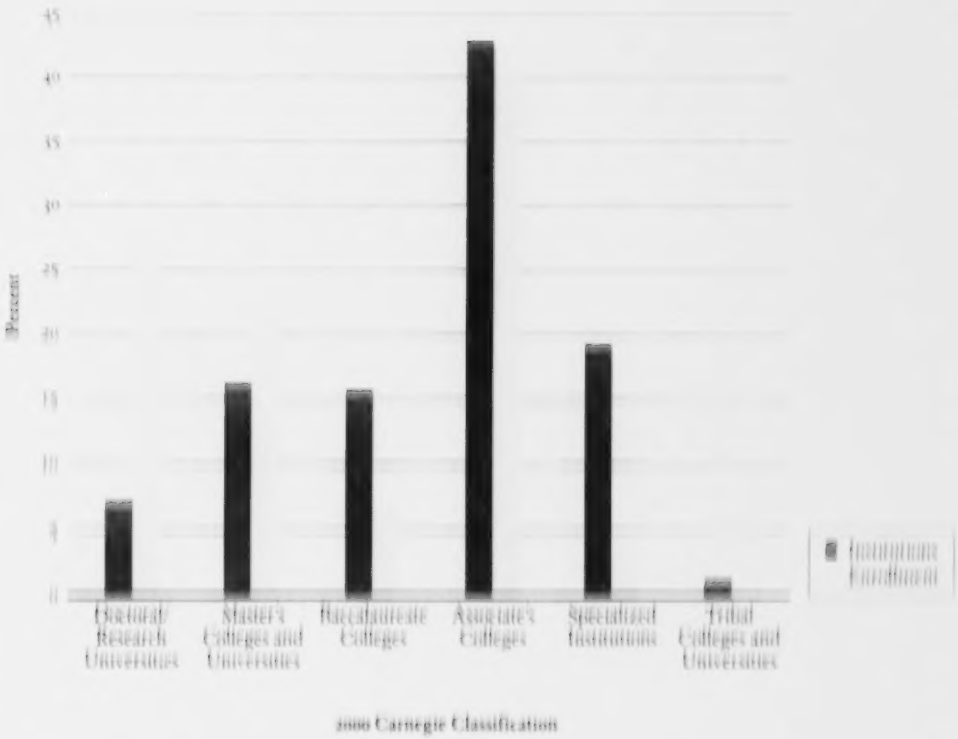
Each category of the Carnegie Classification comprises institutions of varying size, but institutions in the two doctorate-granting categories tend to be much larger than others, with Doctoral/Research Universities—Extensive averaging about 20,500 students in Fall 1998, and Doctoral/Research Universities—Intensive averaging about 11,300 students in the fall. Thus although Doctoral/Research Universities make up only 7 percent of the institutional universe, they accounted for nearly 30 percent of higher education enrollment in Fall 1998 (figure 3). At the other extreme, specialized institutions tend to be quite small, enrolling an average of about 700 students in Fall 1998. While they make up about one-fifth of institutions, they only enroll about 3 percent of students.

CATEGORY	AVERAGE	MEDIAN	CATEGORY TOTAL	PERCENTAGE DISTRIBUTION
Total	3,961	1,617	15,079,143	100.0
Doctoral/Research Universities	16,258	14,319	4,244,433	28.1
Doctoral/Research Universities—Extensive	20,672	20,016	3,121,462	20.7
Doctoral/Research Universities—Intensive	10,201	8,917	1,121,971	7.4
Master's Colleges and Universities	5,288	3,865	3,230,842	21.4
Master's Colleges and Universities I	5,962	4,801	2,957,127	19.6
Master's Colleges and Universities II	2,480	1,932	273,715	1.8
Baccalaureate Colleges	1,729	1,322	1,039,020	6.9
Baccalaureate Colleges—Liberal Arts	1,651	1,436	373,138	2.5
Baccalaureate Colleges—General	1,682	1,474	536,543	3.6
Baccalaureate/Associate's Colleges	1,319	1,083	149,339	1.0
Associate's Colleges[a]	1,785	1,681	6,014,046	40.1
Specialized Institutions	715	119	310,701	2.1
Tribal Colleges and Universities	330	369	11,551	0.1

SOURCE: National Center for Education Statistics, Integrated Postsecondary Education Data System

NOTES: Enrollment data were not available for a small number of institutions (see appendix for full list).
Figures in italics are aggregated from subcategories. Percentage details may not sum to totals due to rounding.

[a] One Associate's College showed enrollment of zero, and one showed enrollment of 384,002. Excluding these institutions, the category average is 1,886.



Degrees

Tables 7–11 present information on degrees conferred by institutions of higher education in academic year 1997–98. Reflecting the size differences discussed above, doctorate-granting institutions are a major source of undergraduate degrees, accounting for nearly half of all bachelor's degrees. Doctoral/Research Universities—Extensive, at just 4 percent of the institutional universe (192 institutions), awarded 36 percent of all bachelor's degrees (table 9). Master's institutions are also a major source of bachelor's graduates, accounting for 37 percent of the total. One in three bachelor's degrees was completed at a Master's I institution. Baccalaureate Colleges awarded 14 percent of all bachelor's degrees in 1997–98.

Although one category of the Carnegie Classification identifies institutions that emphasize the liberal arts (as reflected in students' majors), the liberal arts are in evidence across the spectrum of institutions (see the Technical Notes for information on how the liberal arts were defined). Indeed, in 1997–98 Doctoral/

lf of all bachelor's graduates with liberal arts majors, and Master's institu- of the total (table 7). Baccalaureate Colleges produced about 15 percent of

ts majors was indeed highest at Baccalaureate Colleges—Liberal Arts, aduates majored in liberal arts fields (table 8). Nevertheless, each of the ategories includes institutions where at least half of bachelor's degree recipients majored in liberal arts fields (as well as institutions where none did so). The institution-level proportions averaged 43 percent at Doctoral/Research Universities and 36 percent at Master's Colleges and Universities. Thus an institution's classification in one of these categories, rather than among Baccalaureate Colleges—Liberal Arts, does not necessarily signify an absence of liberal arts education.

TABLE 7 TOTAL UNDERGRADUATE DEGREES CONFERRED BY INSTITUTIONS OF HIGHER EDUCATION, BY 2000 CARNEGIE CLASSIFICATION: 1997-98

	ASSOCIATE'S DEGREES		ALL BACHELOR'S DEGREES		LIBERAL ARTS BACHELOR'S DEGREES	
CATEGORY	CATEGORY TOTAL	PERCENTAGE DISTRIBUTION	CATEGORY TOTAL	PERCENTAGE DISTRIBUTION	CATEGORY TOTAL	PERCENTAGE DISTRIBUTION
Total	557,626	100.0	1,192,487	100.0	490,945	100.0
Doctoral Research Universities	*11,328*	*2.0*	*562,146*	*47.1*	*244,334*	*49.8*
Doctoral Research Universities—Extensive	6,464	1.2	426,221	35.7	194,814	39.7
Doctoral Research Universities—Intensive	4,864	0.9	135,925	11.4	49,520	10.1
Master's Colleges and Universities	*22,955*	*4.1*	*434,908*	*36.5*	*159,504*	*32.5*
Master's Colleges and Universities I	16,933	3.0	396,226	33.2	147,194	30.0
Master's Colleges and Universities II	6,022	1.1	38,682	3.2	12,310	2.5
Baccalaureate Colleges	*23,773*	*4.3*	*151,551*	*12.7*	*75,615*	*15.4*
Baccalaureate Colleges—Liberal Arts	3,319	0.6	69,252	5.8	52,914	10.8
Baccalaureate Colleges—General	7,283	1.3	77,613	6.5	21,967	4.5
Baccalaureate/Associate's Colleges	13,171	2.4	4,686	0.4	734	0.1
Associate's Colleges	481,306	86.3	167	0.0	7	0.0
Specialized Institutions	17,059	3.1	43,628	3.7	11,471	2.3
Tribal Colleges and Universities	1,205	0.2	87	0.0	14	0.0

n Statistics, Integrated Postsecondary Education Data System.

ble for a small number of institutions (see appendix for cell sizes). Figures in italics rcentage details may not sum to totals due to rounding. Degree totals may differ Center for Education Statistics because the Carnegie Classification universe is a y institutions. Percentage details may not sum to totals due to rounding.

TABLE 8 PERCENTAGE OF BACHELOR'S DEGREE RECIPIENTS WITH MAJORS IN LIBERAL ARTS FIELDS, BY 2000 CARNEGIE CLASSIFICATION: 1997–98

CATEGORY	CATEGORY PERCENTAGE	AVERAGE INSTITUTION-LEVEL PERCENTAGE
Total	41.2	37.4
Doctoral/Research Universities	*43.5*	*42.5*
Doctoral/Research Universities—Extensive	45.7	48.1
Doctoral/Research Universities—Intensive	36.4	34.5
Master's Colleges and Universities	*36.7*	*36.0*
Master's Colleges and Universities I	37.1	36.8
Master's Colleges and Universities II	31.8	32.6
Baccalaureate Colleges	*49.9*	*44.9*
Baccalaureate Colleges—Liberal Arts	76.4	74.8
Baccalaureate Colleges—General	28.3	27.9
Baccalaureate/Associate's Colleges	15.7	18.3
Associate's Colleges	4.2	9.1
Specialized Institutions	26.3	27.0
Tribal Colleges and Universities	16.1	10.8

SOURCE: National Center for Education Statistics, Integrated Postsecondary Education Data System.

HOW TO READ THIS TABLE: The first column of figures presents the proportion of all bachelor's degrees conferred that were in liberal arts fields. The second column summarizes institution-level statistics. Thus 43.5 percent of all bachelor's degrees conferred by Doctoral/Research Universities were in liberal arts fields, and the institutional percentages average to 42.5.

NOTES: Figures pertain only to those institutions that awarded bachelor's degrees. Field data were not available for a small number of these institutions. Figures in italics are aggregated from subcategories. See technical notes for information on how liberal arts fields were defined.

Unlike bachelor's degrees, the conferral of associate's degrees was highly concentrated in one category of institutions: Associate's Colleges produced 86 percent of all such degrees. Nevertheless, associate's degree programs exist across the range of classification categories.

It should come as no surprise that Doctoral/Research Universities and Master's institutions produced the majority of graduate degrees in 1997-98. The former group awarded nine out of ten doctoral degrees (most of the remainder were awarded by Specialized Institutions). In addition, Doctoral/Research Universities awarded six out of ten master's degrees, with another third of the total awarded by Master's institutions (table 9). Doctoral/Research Universities—Extensive are defined as institutions that award doctoral degrees in large numbers across a wide range of disciplines, so it is also not surprising that this group accounted for the lion's share of doctoral degree production (80 percent).

TABLE 9 TOTAL GRADUATE AND FIRST-PROFESSIONAL DEGREES CONFERRED BY INSTITUTIONS OF HIGHER EDUCATION, BY 2000 CARNEGIE CLASSIFICATION: 1997-98

	MASTER'S DEGREES		DOCTORAL DEGREES		FIRST-PROFESSIONAL DEGREES	
CATEGORY	CATEGORY TOTAL	PERCENTAGE DISTRIBUTION	CATEGORY TOTAL	PERCENTAGE DISTRIBUTION	CATEGORY TOTAL	PERCENTAGE DISTRIBUTION
Total	429,653	100.0	46,212	100.0	78,920	100.0
Doctoral/Research Universities	*250,221*	58.2	*42,024*	90.9	*45,103*	57.2
Doctoral/Research Universities—Extensive	184,202	42.9	36,834	79.7	35,550	45.0
Doctoral/Research Universities—Intensive	66,019	15.4	5,190	11.2	9,553	12.1
Master's Colleges and Universities	*148,634*	*34.6*	*617*	*1.3*	*9,079*	*11.5*
Master's Colleges and Universities I	141,316	32.9	615	1.3	8,354	10.6
Master's Colleges and Universities II	7,318	1.7	2	0.0	725	0.9
Baccalaureate Colleges	*5,486*	*1.3*	*199*	*0.4*	*1,078*	*1.4*
Baccalaureate Colleges—Liberal Arts	4,046	0.9	199	0.4	761	1.0
Baccalaureate Colleges—General	1,416	0.3	0	0	298	0.4
Baccalaureate/Associate's Colleges	24	0.0	0	0	19	0.0
Associate's Colleges	0	0	0	0	0	0
Specialized Institutions	25,310	5.9	3,372	7.3	23,660	30.0
Tribal Colleges and Universities	2	0.0	0	0	0	0

SOURCE: National Center for Education Statistics, Integrated Postsecondary Education Data System.

NOTES: Conferral data were not available for a small number of institutions (see appendix for cell sizes). Figures in italics are aggregated from subcategories. Percentage details may not sum to totals due to rounding. Degree totals may differ from those published by the National Center for Education Statistics because the Carnegie Classification universe is a subset of the universe of postsecondary institutions.

To be classified among Doctoral/Research Universities—Extensive, an institution must have awarded at least 50 doctorates per year across at least 15 academic fields (see the Technical Notes for information on how fields were defined). This is a diverse group in scale and scope: institutions in this category awarded an average of 244 doctorates in 1997-98, across an average of 35 fields; these institutions also averaged 1,220 master's degrees across 51 fields (tables 10 and 11). At the doctoral level, the highest-producing institution awarded 836 doctorates across 65 fields, and the institution with the most comprehensive field coverage awarded 757 doctorates across 81 fields. At the master's level, one Doctoral/Research University—Extensive awarded 4,966 degrees over 80 fields, and another awarded 1,884 degrees over 99 fields.

While Doctoral/Research Universities—Extensive are institutions that offer advanced training in a wide range of fields, Doctoral/Research Universities—Intensive focus their training in a smaller set of disciplines. These institutions also average about half the enrollment of those in the Extensive group (table 6). These

differences are reflected in lower master's and doctoral degree production: institutions in this category awarded an average of 600 master's degrees and 48 doctoral degrees in 1997-98, across an average of 25 and 7 fields, respectively.

The Master's I category contains institutions that awarded at least 40 master's degrees across at least 3 fields,[11] but it too contains institutions that far exceed these criteria. On average, these institutions awarded 285 master's degrees in 1997-98, and these degrees were conferred in an average of 12 fields. The largest producer awarded 3,667 master's degrees in 28 fields, and the institution with broadest field coverage awarded 1,274 degrees in 57 fields.

As with the distinction between the two categories of Doctoral/Research Universities, Master's II institutions provide master's level training in fewer fields than Master's I institutions, and they average about 60 percent fewer students. The average institution in this group awarded 64 master's degrees in 2 fields in 1997-98.

TABLE 10 **AMONG DOCTORAL/RESEARCH UNIVERSITIES AND MASTER'S COLLEGES AND UNIVERSITIES, MASTER'S DEGREES CONFERRED AND NUMBER OF FIELDS REPRESENTED, BY 2000 CARNEGIE CLASSIFICATION: 1997-98**

	MASTER'S DEGREES		MASTER'S FIELDS*	
CATEGORY	AVERAGE	MEDIAN	AVERAGE	MEDIAN
Total	458	248	19.2	12
Doctoral/Research Universities	*959*	*786*	*40.3*	*39*
Doctoral/Research Universities—Extensive	1,220	1,107	51.0	50
Doctoral/Research Universities—Intensive	600	510	25.3	25
Master's Colleges and Universities	*244*	*160*	*10.2*	*7*
Master's Colleges and Universities I	285	199	12.0	10
Master's Colleges and Universities II	64	41	2.4	2

SOURCE: National Center for Education Statistics, Integrated Postsecondary Education Data System.

NOTES: Figures in italics are aggregated from subcategories. Field data were not available for a small number of institutions. See technical notes for information on how fields were defined.

*Field statistics pertain only to those institutions that awarded master's degrees.

[11] This excludes institutions that were eligible for classification among Doctoral/Research Universities.

TABLE 11 AMONG DOCTORAL/RESEARCH UNIVERSITIES, DOCTORAL DEGREES CONFERRED AND NUMBER OF FIELDS REPRESENTED, BY 2000 CARNEGIE CLASSIFICATION: 1997-98

	DOCTORAL DEGREES		DOCTORAL FIELDS	
CATEGORY	AVERAGE	MEDIAN	AVERAGE	MEDIAN
Total	162	92	23.0	17
Doctoral/Research Universities—Extensive	244	193	34.5	33
Doctoral/Research Universities—Intensive	48	37	7.1	7

SOURCE: National Center for Education Statistics, Integrated Postsecondary Education Data System.

NOTES: Figures in italics are aggregated from subcategories. Field data were not available for a small number of these institutions. See technical notes for information on how fields were defined.

Funding for Research and Development

Although research funding is no longer included among the classification criteria, users of the Carnegie Classification may be curious about the relationship between research funding and the classification categories. Information from two data collections by the National Science Foundation (NSF) is displayed in tables 12 and 13. Table 12 presents data from the NSF's Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions. These figures represent funding obligations for research and development (R&D) in science and engineering[14] by 19 federal agencies (as reported by the agencies, not institutions) (National Science Foundation [NSF], 2000b).[15] Table 13 presents data from the NSF's Survey of Research and Development Expenditures at Universities and Colleges. This is a survey of a subset of institutions judged most likely to have appreciable separately-budgeted R&D expenditures, plus a number that were included for other reasons (556 institutions were surveyed for fiscal year 1998) (NSF, 2000a: 3). Unlike the federal support survey, these data were reported by the institutions themselves and include funds from nonfederal sources. The two surveys offer different, but complementary, perspectives on R&D funding at higher education institutions.[16]

Most notably, both surveys locate the bulk of R&D funds in Doctoral/Research Universities, with close to 90 percent of the total. Furthermore, 80 percent of R&D funding was concentrated at Doctoral/Research Universities—Extensive. Both of these figures are very close to the shares of doctoral production observed in table 9. This should come as no surprise: in most fields the doctorate is a research degree, and doctoral training is closely linked with the academic research enterprise. Among Doctoral/Research Universities—Extensive, federal R&D obligations for science and engineering for 1998 averaged $71.5 million, and total R&D expenditures averaged $132.8 million. (The median values are notably lower—$38.4 and $94.5 million, respectively—reflecting the influence of extreme values on the averages.)

[14] The NSF's definition of science and engineering includes many social science fields.

[15] These figures are not comparable with total federal obligations data that were used in the 1994 Carnegie Classification.

[16] The NSF data are not always reported at the campus level for multi-campus institutions. Both tables exclude data that could not be attributed to single entities in the Classification (e.g., aggregate data for a multi-campus institution, and data reported for system offices). Consequently, these tables do not present comprehensive summaries and national totals.

By definition, Doctoral/Research Universities—Intensive offer doctoral training in fewer fields than their Extensive counterparts. This concentration of effort is reflected in lower average levels of R&D spending: $9.7 million in federal obligations and $21.9 million in total expenditures.

It is also noteworthy that institutions across the classification spectrum received federal funds for research and development in science and engineering.

TABLE 12 **FEDERAL SCIENCE AND ENGINEERING OBLIGATIONS FOR RESEARCH AND DEVELOPMENT TO COLLEGES AND UNIVERSITIES, BY 2000 CARNEGIE CLASSIFICATION: FISCAL YEAR 1998** (IN THOUSANDS)

CATEGORY	AVERAGE[1]	MEDIAN[1]	CATEGORY TOTAL[2]	PERCENTAGE DISTRIBUTION
Total	$15,432	$556	$11,404,389	100.0
Doctoral/Research Universities	*$46,191*	*$15,479*	*$10,023,442*	*87.9*
Doctoral/Research Universities—Extensive	71,536	38,409	9,156,555	80.3
Doctoral/Research Universities—Intensive	9,740	3,415	866,887	7.6
Master's Colleges and Universities	*1,050*	*195*	*266,823*	*2.3*
Master's Colleges and Universities I	1,104	211	260,645	2.3
Master's Colleges and Universities II	343	102	6,178	0.1
Baccalaureate Colleges	*338*	*115*	*54,067*	*0.5*
Baccalaureate Colleges—Liberal Arts	360	132	39,952	0.4
Baccalaureate Colleges—General	292	70	13,746	0.1
Baccalaureate/Associate's Colleges	185	185	369	0.0
Associate's Colleges	338	214	12,495	0.1
Specialized Institutions	15,627	1,762	1,047,004	9.2
Tribal Colleges and Universities	140	69	558	0.0

SOURCE: National Science Foundation, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions.

NOTES: Excludes amounts that could not be attributed to a single institution in the Classification (i.e., amounts reported in the aggregate for a multi-campus institution or system, as well as amounts reported for system or central offices). The majority of these amounts would likely be properly attributed to doctorate-granting institutions. Figures in italics are aggregated from subcategories. Percentage details may not sum to totals due to rounding.

[1] Figures refer to institutions with federal science and engineering obligations for research and development (institutions with zero obligations are excluded; see appendix for cell sizes).

[2] Because this table excludes amounts that could not be attributed to a single institution, totals do not represent comprehensive national totals.

TABLE 13 EXPENDITURES FOR RESEARCH AND DEVELOPMENT AT COLLEGES AND UNIVERSITIES, BY 2000 CARNEGIE CLASSIFICATION: FISCAL YEAR 1998 (IN THOUSANDS)

CATEGORY	AVERAGE[1]	MEDIAN[1]	CATEGORY TOTAL[2]	PERCENTAGE DISTRIBUTION
Total	$42,834	$4,550	$20,945,744	100.0
Doctoral/Research Universities	*$88,287*	*$36,238*	*$18,716,881*	*89.4*
Doctoral/Research Universities—Extensive	132,750	94,463	16,859,308	80.5
Doctoral/Research Universities—Intensive	21,854	9,959	1,857,573	8.9
Master's Colleges and Universities	*3,499*	*1,496*	*503,811*	*2.4*
Master's Colleges and Universities I	3,648	1,648	496,119	2.4
Master's Colleges and Universities II	962	413	7,692	0.0
Baccalaureate Colleges	*1,067*	*612*	*74,718*	*0.4*
Baccalaureate Colleges—Liberal Arts	1,094	612	50,340	0.2
Baccalaureate Colleges—General	1,016	600	24,378	0.1
Baccalaureate/Associate's Colleges	—	—	—	—
Associate's Colleges	—	—	—	—
Specialized Institutions	26,196	6,672	1,650,334	7.9
Tribal Colleges and Universities	—	—	—	—

SOURCE: National Science Foundation, Survey of Research and Development Expenditures at Universities and Colleges.

NOTES: Excludes amounts that could not be attributed to a single institution in the Classification (i.e., amounts reported in the aggregate for a multi-campus institution or system, as well as amounts reported for system or central offices). The majority of these amounts would likely be properly attributed to doctorate-granting institutions. Figures in italics are aggregated from subcategories. Percentage details may not sum to totals due to rounding.

[1] Figures refer to institutions with expenditures for research and development (institutions with zero expenditures and institutions not surveyed are excluded; see appendix for cell sizes).

[2] Because this table excludes amounts that could not be attributed to a single institution, totals do not represent comprehensive national totals.

—Not applicable.

Concluding Comments

The Carnegie Classification is a useful tool for identifying groups of comparable institutions, and it has served researchers, policy makers, and others for three decades. Despite the relative continuity of category labels from each edition to the next, there have been many changes to the underlying category definitions. Because it simplifies a very complex reality, users of the Classification should carefully consider the constraints and limitations outlined above, particularly its reference to a specific time frame: the 2000 edition is a snapshot of institutions based on data from 1995-96 through 1997-98, and any number of institutions might be classified differently based on more recent data.

This edition will be the last in a series of unitary classification schemes issued by The Carnegie Foundation for the Advancement of Teaching. The next edition, scheduled for release in 2005, will introduce a series of

distinct classifications that will offer users greater precision and flexibility. There are no plans to issue any revisions prior to 2005.

The 2000 Carnegie Classification shows a continuing healthy institutional diversity in U.S. higher education. The foregoing analysis also shows diversity within categories of the Classification, as well as some commonalities across categories that may be obscured in the present system. Both of these point to the value of rethinking the Classification system and seeking new ways to represent the range of commonalities and differences that exist across institutions of higher education.

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TABLE A1 CHANGING CRITERIA FOR DOCTORAL UNIVERSITIES: 1973–94

YEAR	DOCTORAL UNIVERSITIES I*	DOCTORAL UNIVERSITIES II*
1973	These institutions awarded 40 or more Ph.D.s in 1969-70 (plus M.D.s if on the same campus) or received at least $3 million in total federal financial support in either 1969-70 or 1970-71. No institution is included that granted fewer than 20 Ph.D.s (plus M.D.s if on the same campus), regardless of the amount of federal financial support it received.	These institutions awarded at least 10 Ph.D.s in 1969-70, with the exception of a few new doctoral-granting institutions that may be expected to increase the number of Ph.D.s awarded within a few years.
1976	These institutions awarded 40 or more Ph.D.s in at least five fields in 1973-74 (plus M.D.s if on the same campus) or received at least $3 million in total federal support in either 1973-74 or 1974-75. No institution is included that granted less than 20 Ph.D.s (plus M.D.s if on the same campus) in at least five fields regardless of the amount of federal financial support it received.	These institutions awarded at least 20 Ph.D.s in 1973-74 without regard to field, or 10 Ph.D.s in at least three fields. In addition, we include a few doctorate-granting institutions that may be expected to increase the number of Ph.D.s awarded within a few years.
1987	In addition to offering a full range of baccalaureate programs, the mission of these institutions includes a commitment to graduate education through the doctorate degree. They award at least 40 Ph.D. degrees annually in five or more academic disciplines.	In addition to offering a full range of baccalaureate programs, the mission of these institutions includes a commitment to graduate education through the doctorate degree. They award annually 20 or more Ph.D. degrees in at least one discipline or 10 or more Ph.D. degrees in three or more disciplines.
1994	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the doctorate. They award at least 40 doctoral degrees annually in five or more disciplines.	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the doctorate. They award annually at least ten doctoral degrees—in three or more disciplines—or 20 or more doctoral degrees in one or more disciplines.

SOURCES: Carnegie Commission on Higher Education, 1973; Carnegie Council on Policy Studies in Higher Education, 1976; Carnegie Foundation for the Advancement of Teaching, 1987 and 1994.

*In 1973 and 1976 these categories were labeled Doctoral-granting Universities, in 1987 Doctorate-Granting Colleges and Universities, and in 1994 Doctoral Universities.

TABLE A2 CHANGING CRITERIA FOR COMPREHENSIVE AND MASTER'S INSTITUTIONS: 1973–94

YEAR	COMPREHENSIVE/MASTER'S I*	COMPREHENSIVE/MASTER'S II*
1973	This group includes institutions that offered a liberal arts program as well as several other programs, such as engineering and business administration. Many of them offered master's degrees, but all lacked a doctoral program or had an extremely limited doctoral program. All institutions in this group had a least two professional or occupational programs and enrolled at least 2,000 students in 1970. If an institution's enrollment was smaller than this, it was not considered comprehensive.	This list includes state colleges and some private colleges that offered a liberal arts program and at least one professional or occupational program such as teacher training or nursing. Many of the institutions in this group are former teachers colleges that have recently broadened their programs to include a liberal arts curriculum. Private institutions with fewer than 1,500 students and public institutions with fewer than 1,000 students in 1970 are not included even though they may offer a selection of programs, because they were not regarded as comprehensive with such small enrollments. Such institutions are classified as liberal arts colleges.
1976	This group includes institutions that offered a liberal arts program as well as several other programs, such as engineering and business administration. Many of them offered master's degrees, but all lacked a doctoral program or had an extremely limited doctoral program. All institutions in this group had at least two professional or occupational programs and enrolled at least 2,000 students in 1976. If an institution's enrollment was smaller than this, it was not considered very comprehensive.	This list includes state colleges and private colleges that offered a liberal arts program and at least one professional or occupational program, such as teacher training or nursing. Many of the institutions in this group are former teachers colleges that have broadened their programs to include a liberal arts curriculum. In general, private institutions with less than 1,500 students and public institutions with less than 1,000 students in 1976 were not included even though they offered a selection of programs, because they were not regarded as comprehensive with such small enrollments. Such institutions are classified as liberal arts colleges.
1987	These institutions offer baccalaureate programs and, with few exceptions, graduate education through the masters degree. More than half of their baccalaureate degrees are awarded in two or more occupational or professional disciplines such as engineering or business administration. All of the institutions in this group enroll at least 2,500 students.	These institutions award more than half of their baccalaureate degrees in two or more occupational or professional disciplines, such as engineering or business administration, and many also offer graduate education through the masters degree. All of the colleges and universities in this group enroll between 1,500 and 2,500 students.
1994	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 40 or more master's degrees annually in three or more disciplines.	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 20 or more master's degrees annually in one or more disciplines.

SOURCES: Carnegie Commission on Higher Education, 1973; Carnegie Council on Policy Studies in Higher Education, 1976; Carnegie Foundation for the Advancement of Teaching, 1987 and 1994.

NOTES: Additional wording concerning exceptional cases and justification for enrollment thresholds (1973 and 1976) has been excluded.

*In 1973 and 1976 these categories were labeled Comprehensive Universities and Colleges, in 1987 Comprehensive Colleges and Universities, and in 1994 Master's (Comprehensive) Colleges and Universities I and II.

TABLE A3 CHANGING CRITERIA FOR LIBERAL ARTS AND BACCALAUREATE COLLEGES: 1973–94

YEAR	LIBERAL ARTS/BACCALAUREATE COLLEGES I*	LIBERAL ARTS/BACCALAUREATE COLLEGES II*
1973	These colleges scored 5 or above on Astin's selectivity index or they were included among the 200 leading baccalaureate-granting institutions in terms of numbers of their graduates receiving Ph.D.s at 40 leading doctoral-granting institutions from 1920 to 1966.	These institutions include all the liberal arts colleges that did not meet our criteria for inclusion in the first group of liberal arts colleges.
1976	These colleges scored 1030 or more on a selectivity index developed by Alexander W. Astin or they were included among the 200 leading baccalaureate-granting institutions in terms of numbers of their graduates receiving Ph.D.s at 40 leading doctorate-granting institutions from 1920 to 1966.	These institutions include all the liberal arts colleges that did not meet our criteria for inclusion in the first group of liberal arts colleges.
1987	These highly selective institutions are primarily undergraduate colleges that award more than half of their baccalaureate degrees in arts and science fields.	These institutions are primarily undergraduate colleges that are less selective and award more than half of their degrees in liberal arts fields. This category also includes a group of colleges that award less than half of their degrees in liberal arts fields but, with fewer than 1,500 students, are too small to be considered comprehensive.
1994	These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award 40 percent or more of their baccalaureate degrees in liberal arts fields and are restrictive in admissions.	These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award less than 40 percent of their baccalaureate degrees in liberal arts fields or are less restrictive in admissions.

SOURCES: Carnegie Commission on Higher Education, 1973; Carnegie Council on Policy Studies in Higher Education, 1976; Carnegie Foundation for the Advancement of Teaching, 1987 and 1994.

NOTES: Additional wording concerning individual institutions and special judgments excluded.

*From 1973 through 1987 these categories were labeled Liberal Arts Colleges I and II. In 1994, the labels were changed to Baccalaureate (Liberal Arts) Colleges I and Baccalaureate Colleges II.

TABLE A4 CHANGES IN THE CARNEGIE CLASSIFICATION: 1994 TO 2000

	2000 CARNEGIE CLASSIFICATION							
1994 CARNEGIE CLASSIFICATION	DOCTORAL/ RESEARCH UNIVERSITIES	MASTER'S COLLEGES AND UNIVERSITIES	BACCA- LAUREATE COLLEGES	ASSOCIATE'S COLLEGES	SPECIALIZED INSTITUTIONS	TRIBAL COLLEGES AND UNIVERSITIES	NOT IN UNIVERSE	TOTAL
Doctorate-Granting Institutions	244	1			1			246
Master's Colleges and Universities	21	492	12		5		3	533
Baccalaureate Colleges		91	527		14		13	645
Associate of Arts Colleges		1	26	1,392	44		110	1,463
Specialized Institutions	5	17	25	1	589		53	690
Tribal Colleges and Universities						25	4	29
Not in universe	1	9	16	370	124	3		528
Total	261	611	606	1,763	766	28	183	4,124

HOW TO READ THIS TABLE: This table maps all institutions in the 1994 and 2000 editions of the Carnegie Classification, showing whether and where they appeared in each edition. Thus the first row of figures shows that out of a total of 246 institutions classified among Doctorate-Granting Institutions in 1994, 244 remained in the analogous group in 2000; one was reclassified among Master's Colleges and Universities; and one was reclassified among Specialized Institutions.

NOTES: Totals for 1994 differ slightly from those previously published, reflecting a small number of revisions made in 1997.

TABLE A5 NUMBER OF INSTITUTIONS INCLUDED IN TEXT TABLES 6–13

CATEGORY	T6	T7 TOTALS	T7 LIB. ARTS	T8*	T9	T10 DEGREES	T10 FIELDS	T11 DEGREES	T11 FIELDS	T12	T13
Total	3,808	3,759	3,745	1,896	3,758	870	864	260	259	739	489
Doctoral/Research Universities	*261*	*260*	*260*	*254*	*261*	*261*	*258*	*260*	*259*	*217*	*212*
Doctoral/Research Universities—Extensive	151	151	151	149	151	151	151	151	151	128	127
Doctoral/Research Universities—Intensive	110	109	109	105	110	110	107	109	108	89	85
Master's Colleges and Universities	*611*	*611*	*608*	*605*	*609*	*609*	*606*	—	—	*254*	*144*
Master's Colleges and Universities I	496	495	494	491	495	495	493	—	—	236	136
Master's Colleges and Universities II	115	116	114	114	114	114	113	—	—	18	8
Baccalaureate Colleges	*601*	595	*594*	*594*	595	—	—	—	—	*160*	*70*
Baccalaureate Colleges —Liberal Arts	226	226	226	226	226	—	—	—	—	111	46
Baccalaureate Colleges—General	319	317	316	316	317	—	—	—	—	47	24
Baccalaureate/Associate's Colleges	56	52	52	52	52	—	—	—	—	2	0
Associate's Colleges	1,596	1,557	1,557	11	1,557	—	—	—	—	37	0
Specialized Institutions	714	713	702	428	713	—	—	—	—	67	63
Tribal Colleges and Universities	25	24	24	4	24	—	—	—	—	4	0

* Ns reported for table 8 refer to institution-level data (second column of figures). Ns for category totals are the same as for table 7.
—Not applicable.

TABLE A6 STANDARD DEVIATIONS CORRESPONDING TO AVERAGES IN TABLES 6, 8, AND 10–13

			T10		T11			
CATEGORY	T6	T8[1]	DEGREES	FIELDS	DEGREES	FIELDS	T12	T13
Total	8,580	29.1	558	18.9	169	18.3	$46,638	$89,504
Doctoral/Research Universities	*10,368*	*19.6*	*707*	*19.6*	*169*	*18.3*	*76,071*	*119,115*
Doctoral/Research Universities—Extensive	10,347	19.7	741	17.1	176	15.9	88,302	131,648
Doctoral/Research Universities—Intensive	6,714	16.5	462	11.4	57	3.6	25,942	46,779
Master's Colleges and Universities	*4,472*	*17.2*	*279*	*8.6*	—	—	*2,050*	*6,396*
Master's Colleges and Universities I	4,624	16.2	294	8.5	—	—	2,111	6,542
Master's Colleges and Universities II	1,914	20.6	55	1.4	—	—	608	1,580
Baccalaureate Colleges	*1,729*	*29.1*	—	—	—	—	*594*	*1,190*
Baccalaureate Colleges—Liberal Arts	1,388	18.4	—	—	—	—	623	1,199
Baccalaureate Colleges—General	1,505	13.4	—	—	—	—	536	1,197
Baccalaureate/Associate's Colleges	3,188	27.1	—	—	—	—	227	—
Associate's Colleges[2]	10,802	30.2	—	—	—	—	388	—
Specialized Institutions	1,042	41.1	—	—	—	—	27,652	41,981
Tribal Colleges and Universities	408	19.2	—	—	—	—	193	—

[1] Standard deviations for table 8 correspond to institution-level averages (second column of figures).
[2] For table 6, one Associate's College showed enrollment of zero, and one showed enrollment of 384,002. Excluding these institutions, the standard deviation is 5,101.
—Not applicable.